CLAIMS

What is claimed is:

1. A packet-network analyzer system comprising a host analyzer communicatively coupled to a first client analyzer, wherein the host analyzer incorporates a neural processing module to process raw digital data provided to the host analyzer by the first client analyzer for characterizing a packet-network-under-test that is connected to the first client analyzer.

2. The packet-network analyzer system of claim 1, wherein the host analyzer comprises:

a data collection element that receives the raw digital data from the first client analyzer;

a data selection element that generates a selected data set from the raw digital data;

a data processing element that processes the selected data set to generate a normalized data set;

wherein the neural processing module that processes the normalized data set to generate a set of rules and relationships; and

a data mining module that uses the set of rules and relationships to generate a mined data set from the selected data set, wherein the mined data set is used to characterize the packet-network-under-test.

3. The packet-network analyzer of claim 2, wherein the neural processing module comprises a fast neural classifier that is derived from ART.

4. The packet-network analyzer of claim 3, wherein the neural processing module further comprises a rules and relationship extraction module that uses a modified CHAID scheme.

5. The packet-network analyzer system of claim 2, wherein the neural processing module processes the normalized data set using ART, and the set of rules and relationships is generated by the neural processing module using a modified CHAID scheme.

6. The packet-network analyzer system of claim 5, wherein the first client analyzer uses XML to transport the raw digital data of the packet-network-under-test to the data collection element.

7. The packet-network analyzer system of claim 6, wherein the packet-network-under-test is an IP network.

8. The packet-network analyzer system of claim 6, wherein the packet-network-under-test is a subnet of the Internet.

9. The packet-network analyzer system of claim 2, wherein the data collection element of the host analyzer comprises a HTTP server using XML to communicatively couple the host analyzer via a packet network to the first client analyzer, and wherein the first client analyzer uses XML to transport the raw digital data of the packet-network-under-test to the host analyzer.

10. The packet-network analyzer system of claim 7, wherein the host analyzer is communicatively coupled to a second client analyzer that is communicatively coupled via a packet network to a third client analyzer, and wherein the third client analyzer uses XML over HTTP to transmit raw digital data to the second client analyzer for characterizing a second packet-network-under-test that is connected to the third client analyzer.

11. A method for analyzing a packet-network-under-test, comprising:

receiving raw digital data that is derived from a packet-network-under-test;

generating a selected data set from the received raw digital data;

generating a normalized data set from the selected data set;

processing the normalized data set in a neural network to generate a set of rules and relationships;

using the set of rules and relationships for mining the selected data set to generate a mined data set; and

using the mined data set to characterize the packet-network-under-test.

12. The method of claim 11, wherein the step of receiving raw digital data incorporates the use of XML over HTTP as a transmission protocol.

13. The method of claim 12, wherein the normalized data set is generated using ART, and the set of rules and relationships is generated using a modified CHAID scheme.

14. The method of claim 13, wherein characterizing the packet-network-under-test comprises generating a performance metric of transmission of data packets through the packet-network-under-test.

15. The method of claim 14, wherein the packet-network-under-test is an IP network.

16. The method of claim 14, wherein the packet-network-under-test is a subnet of the Internet.

17. A packet-network analyzer system stored on a computer-readable medium, the analyzer comprising:

logic configured to receive raw digital data that is derived from a packet-network-under-test;

logic configured to generate a selected data set from raw digital data of the packet-network-under-test;

logic configured to generate a normalized data set from the selected data set;

logic configured to process the normalized data set in a neural network to generate a set of rules and relationships;

logic configured to use the set of rules and relationships for mining the selected data set to generate a mined data set; and

logic configured to use the mined data set to characterize the packet-network-under-test.

18. The analyzer system of claim 17, wherein the logic configured to receive raw digital data incorporates the use of XML over HTTP as a transmission protocol.

19. The analyzer system of claim 18, wherein the logic configured to generate the normalized data set uses ART, and the logic configured to process the normalized data set in the neural network uses a modified CHAID scheme.

20. The analyzer system of claim 19 wherein the logic configured to receive raw digital data incorporates logic to interface to the Internet.

21. A packet-network analyzer system stored on a computer-readable medium, the analyzer comprising:

means for receiving raw digital data that is derived from a packet-network-under-test;

means for generating a selected data set from raw digital data of the packet-network-under-test;

means for generating a normalized data set from the selected data set;

means for processing the normalized data set using a neural network to generate a set of rules and relationships;

means for using the set of rules and relationships for mining the selected data set to generate a mined data set; and

means for using the mined data set to characterize the packet-network-under-test.

22. The analyzer system of claim 17, wherein the means for receiving raw digital data incorporates the use of XML over HTTP as a transmission protocol.

23. The analyzer system of claim 18, wherein the means for generating the normalized data set uses ART, and the means for processing the normalized data set using the neural network uses a modified CHAID scheme.

24. The analyzer system of claim 19 wherein the means for receiving raw digital data incorporates means to interface to the Internet.